

Precision pressure regulators LRP/LRPS

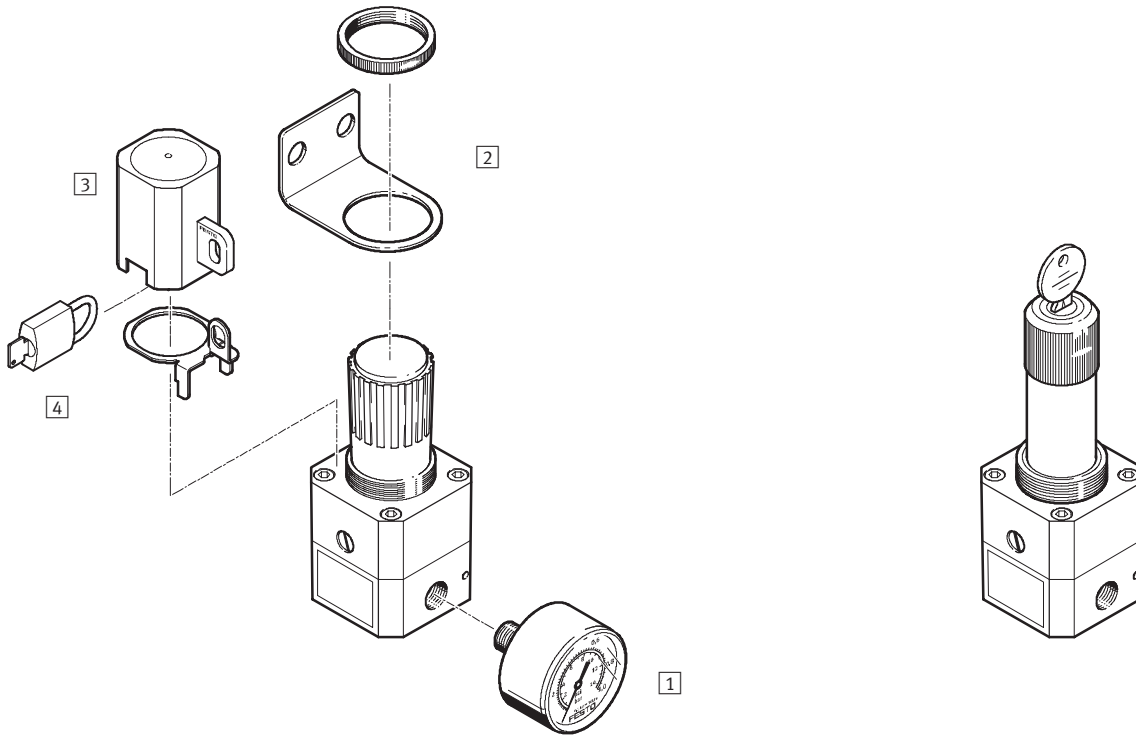
Peripherals overview and type codes

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Peripherals overview

Precision pressure regulator LRP

Precision pressure regulator LRPS, lockable



Mounting attachments and accessories	Brief description	→ Page
1 Pressure gauge MAP	The pressure gauges measure pressure in bar and the psi display range	3 / 4.8-10
2 Mounting bracket HR-1/4-P	For wall mounting	3 / 4.2-5
3 Regulator lock with lock plate LRVS-LRP-1/4	Prevents unintentional, and in conjunction with an LRVS padlock, unauthorised adjustment of the rotary knob	3 / 4.2-5
4 Padlock LRVS-D	Accessory for LRVS	3 / 4.2-5

Type codes

LRP	—	1/4	—	0.7
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Service function

LRP	Precision pressure regulator
LRPS	Precision pressure regulator, lockable

Pneumatic connection

1/4	Thread G1/4
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Pressure regulation range

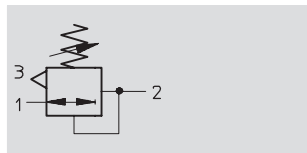
0.7	0.05 ... 0.7 bar
2.5	0.05 ... 2.5 bar
4	0.05 ... 4 bar
10	0.1 ... 10 bar

Precision pressure regulators LRP/LRPS

Technical data

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Function



-  - Flow rate
800 ... 2 300 l/min
-  - Temperature range
-10 ... +60 °C
-  - Input pressure
1 ... 12 bar



The precision pressure regulator controls operating pressure (secondary side) with a diaphragm pilot control, which acts upon the main seat and thus achieves improved regulating characteristics.

- Precision pressure adjustment possible both in static and dynamic applications
- Pressure hysteresis of < 0.02 bar for flow rate characteristic curve
- Good response characteristics during rapid modification of input pressure and flow rate
- Input pressure fluctuations are almost entirely compensated

General technical data				
Type LRP/LRPS-1/4-...	0,7	2,5	4	10
Pneumatic connection	G1/4			
Operating medium	Compressed air, filtered, unlubricated, grade of filtration ≤ 40 µm			
Design	Pilot-actuated precision diaphragm regulating valve			
Type of mounting	Via accessories			
	Panel mounting			
	In-line installation			
Mounting position	Any			
Max. hysteresis [mbar]	20			
Input pressure 1 [bar]	1 ... 12			
Pressure regulation range [bar]	0.05 ... 0.7	0.05 ... 2.5	0.05 ... 4	0.1 ... 10
Pressure indication	G1/8 prepared			

Standard nominal flow rate ¹⁾ qnN [l/min]				
Type LRP/LRPS-1/4-...	0,7	2,5	4	10
Standard nominal flow rate [l/min]	800	1 800	2 000	2 300

1) measured at p1 = 12 bar, Δp2 = 100 mbar

Ambient conditions		
Ambient temperature [°C]	-10 ... +60	
Temperature of medium [°C]	-10 ... +60	

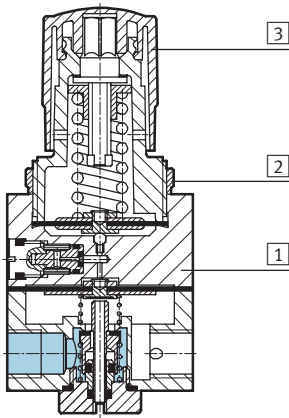
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Weights [g]		
Type	LRP	LRPS
Precision pressure regulator	380	470

Materials	
Sectional view	

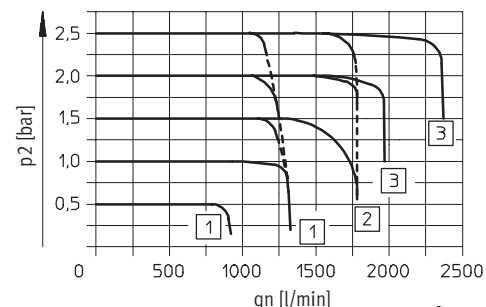
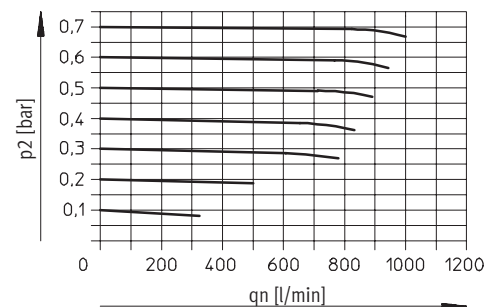


Precision pressure regulator	LRP	LRPS
1 Housing	Aluminium	
2 Knurled nut	Polycarbonate/polyamide	
3 Rotary knob	Polyacetate	Aluminium
- Seals	Nitrile rubber	

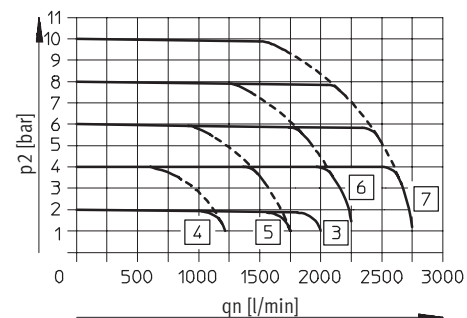
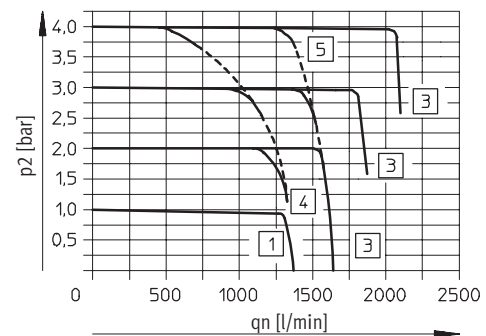
Individual units
Precision pressure regulators

4.2

Standard flow rate q_n as a function of the output pressure p_2	
LRP/LRPS-1/4 -0.7	LRP/LRPS-1/4 -2.5



LRP/LRPS-1/4 -4	LRP/LRPS-1/4 -10
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- 1 Input pressure $p_1 = 5 \dots 12$ bar
- 2 Input pressure $p_1 = 7 \dots 12$ bar
- 3 Input pressure $p_1 = 10 \dots 12$ bar
- 4 Input pressure $p_1 = 5$ bar

- 5 Input pressure $p_1 = 7$ bar
- 6 Input pressure $p_1 = 10$ bar
- 7 Input pressure $p_1 = 12$ bar

Precision pressure regulators LRP/LRPS

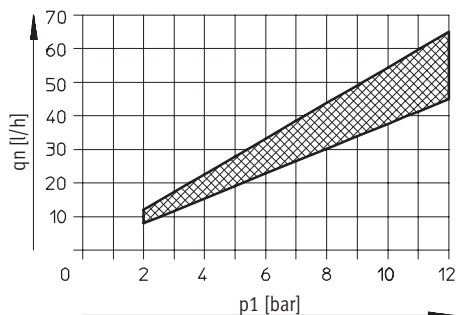
Technical data

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Individual units
Precision pressure regulators

4.2

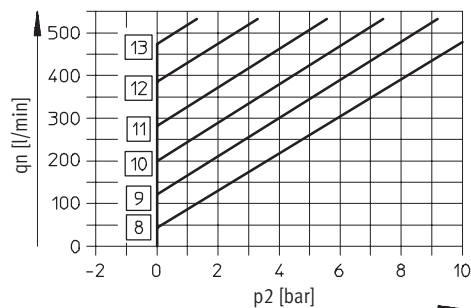
Internal air consumption q_n as a function of supply pressure p_1



- 8 Output excess pressure $p_2 = 0.7$ bar
- 9 Output excess pressure $p_2 = 2$ bar
- 10 Output excess pressure $p_2 = 4$ bar

Primary pressure $p_1 = 10$ bar

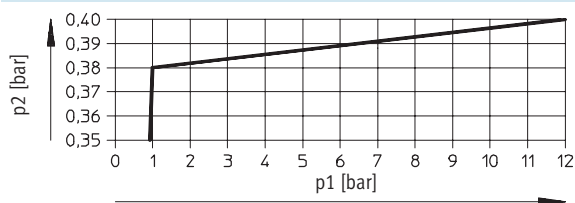
Standard flow rate q_n as a function of output excess pressure p_2



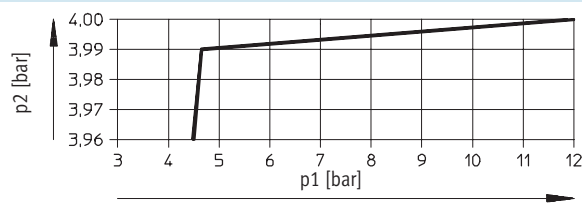
- 11 Output excess pressure $p_2 = 6$ bar
- 12 Output excess pressure $p_2 = 8$ bar
- 13 Output excess pressure $p_2 = 10$ bar

Output pressure p_2 as a function of input pressure p_1

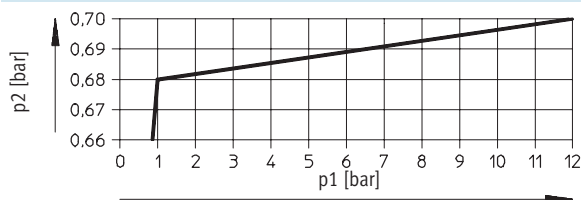
Primary pressure dependence $q_n = 35$ l/min



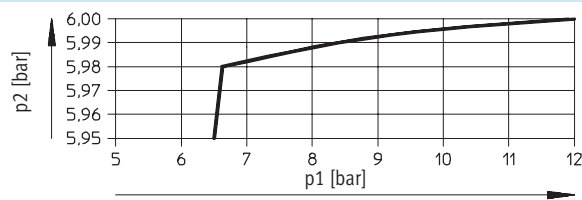
Primary pressure dependence $q_n = 220$ l/min



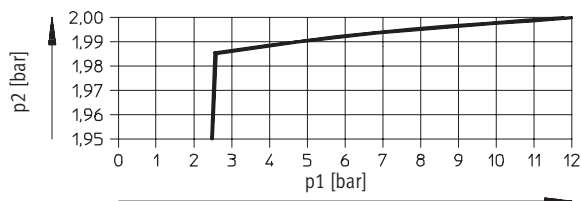
Primary pressure dependence $q_n = 55$ l/min



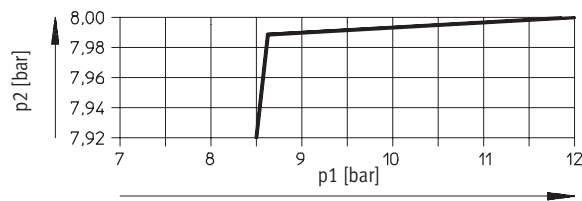
Primary pressure dependence $q_n = 340$ l/min



Primary pressure dependence $q_n = 120$ l/min

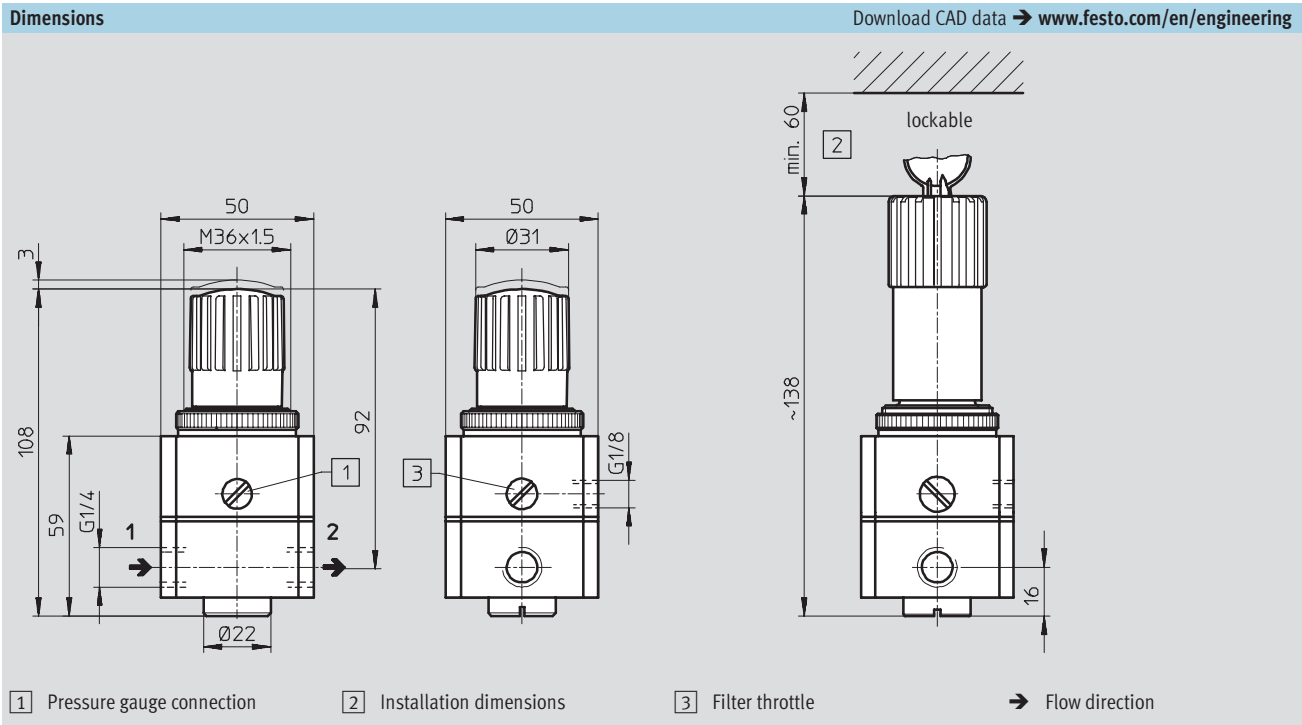


Primary pressure dependence $q_n = 420$ l/min



Precision pressure regulators LRP/LRPS

Technical data



Ordering data			
Pressure regulation range [bar]	Precision pressure regulator LRP		Precision pressure regulator, lockable LRPS
	Part No.	Type	Part No. Type
0.05 ... 0.7	159 500	LRP-1/4-0,7	194 690 LRPS-1/4-0,7
0.05 ... 2.5	162 834	LRP-1/4-2,5	194 691 LRPS-1/4-2,5
0.05 ... 4	159 501	LRP-1/4-4	194 692 LRPS-1/4-4
0.1 ... 10	159 502	LRP-1/4-10	194 693 LRPS-1/4-10

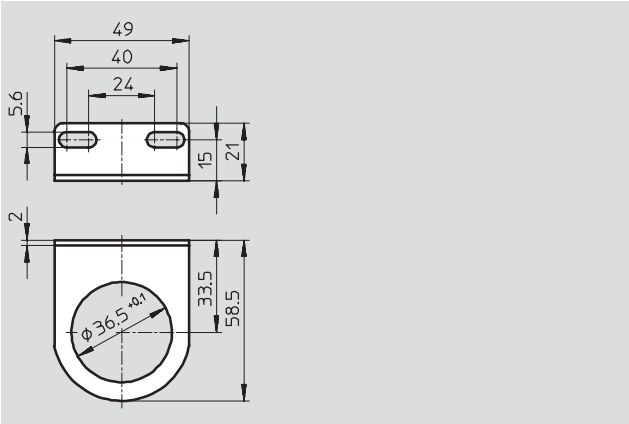
Precision pressure regulators LRP/LRPS

Accessories



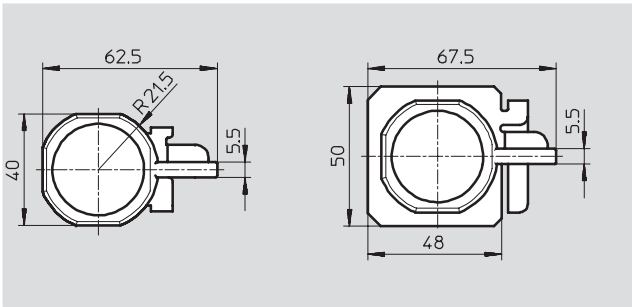
Mounting bracket HR for wall mounting

Material:
Galvanised steel



Ordering data		Part No.	Type
Mounting bracket		159 503	HR-1/4-P

Regulator lock LRVS-LRP



Ordering data				Part No.	Type
	Connection	Weight [g]			
Regulator lock	G1/4	36		193 785	LRVS-LRP-1/4

Padlock LRVS-D

Material:
Housing: Brass



Ordering data		Part No.	Type
	Weight [g]		
Padlock	120	193 786	LRVS-D